U.S. Application No.: 10/784,879

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A support for a lithographic printing plate obtained by performing graining treatment including electrochemical graining treatment on an aluminum plate,

wherein said aluminum plate is an aluminum plate which is manufactured by a method including molten metal treatment, and contains Fe of 0.20 to 0.29 wt%, Si of 0.03 to 0.15 wt%, Cu of 0.020 0.032 to 0.040 wt% and Ti of 0.050 wt% or less and whose remaining portion is composed of Al and unavoidable impurities,

and wherein surface area ratio and steepness obtained from three-dimensional data by measuring 512×512 points in 5 μ m \times 5 μ m on the surface with an atomic force microscope each satisfies the following conditions (i) to (vi):

- (i) Surface surface area ratio ΔS^5 is 30 to 70%;
- (ii) Surface surface area ratio $\Delta S^{5(0.2-5)}$ is 10 to 30%;
- (iii) Surface surface area ratio $\Delta S^{5(0.02-0.2)}$ is 30 to 70%;
- (iv) Steepness steepness a455 is 20 to 50%;
- (v) Steepness-steepness $a45^{5(0.2-5)}$ is 5 to 20%; and
- (vi) Steepness steepness a45^{5(0.02-0.2)} is 20 to 60%,

U.S. Application No.: 10/784,879

wherein ΔS^5 which is found by the following equation from actual area S_x^5 found by <u>an</u> approximation three-point method from said three-dimensional data and geometrically measured area S_0^5 is surface area ratio expressed by $\Delta S^5 = [(S_x^5 - S_0^5) / S_0^5] \times 100 (\%);$

 $\Delta S^{5(0.2-5)}$ which is found by the following equation from actual area $S_x^{5(0.2-5)}$ obtained by extracting a component with wavelength of 0.2 μm or longer and 5 μm or shorter from said three-dimensional data and geometrically measured area S_0^5 is surface area ratio expressed by $\Delta S^{5(0.2-5)} = \left[\left(S_x^{5(0.2-5)} - S_0^5 \right) / S_0^5 \right] \times 100 \, (\%);$

 $\Delta S^{5(0.02-0.2)}$ which is found by the following equation from actual area $S_x^{5(0.02-0.2)}$ obtained by extracting a component with wavelength of 0.02 μm or longer and 0.2 μm or shorter from said three-dimensional data and geometrically measured area S_0^5 is surface area ratio expressed by $\Delta S^{5(0.02-0.2)} = \left[\left(S_x^{5(0.02-0.2)} - S_0^5 \right) / S_0^5 \right] \times 100 \, (\%);$

steepness $a45^5$ is an area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area S_x^5 found by <u>an</u> approximation three-point method from said three-dimensional data;

steepness a45^{5(0.2-5)} is an area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area $S_x^{5(0.2-5)}$ found by extracting a component with wavelength of 0.2 μ m or longer and 5 μ m or shorter from said three-dimensional data; and

steepness a45 $^{5(0.02-0.2)}$ is an area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area $S_x^{5(0.02-0.2)}$ found by extracting a component with wavelength of 0.02 μ m or longer and 0.2 μ m or shorter from said three-dimensional data.

U.S. Application No.: 10/784,879

2. (currently amended): A support for a lithographic printing plate obtained by performing graining treatment including electrochemical graining treatment on an aluminum plate,

wherein said aluminum plate is an aluminum plate which is manufactured by a method including molten metal treatment, and contains Fe of 0.20 to 0.29 wt%, Si of 0.03 to 0.15 wt%, Cu of 0.020 0.032 to 0.040 wt% and Ti of 0.050 wt% or less and whose remaining portion is composed of Al and unavoidable impurities,

and wherein surface area ratio and steepness obtained from three-dimensional data by measuring 512×512 points in $50 \ \mu m \times 50 \ \mu m$ on the surface with an atomic force microscope each satisfies the following conditions (xi) to (xvi):

- (xi) Surface surface area ratio ΔS^{50} is 30 to 70%;
- (xii) Surface surface area ratio $\Delta S^{50(2-50)}$ is 5 to 10%;
- (xiii) Surface surface area ratio $\Delta S^{50(0.2-2)}$ is 15 to 40%;
- (iv) Steepness steepness a4550 is 25 to 60%;
- (xv) Steepness-steepness a45 $^{50(2-50)}$ is 0 to 3.0%; and
- (xvi) Steepness-steepness a45 $^{50(0.2-2)}$ is 10 to 40%,

wherein ΔS^{50} which is found by the following equation from actual area S_x^{50} found by <u>an</u> approximation three-point method from said three-dimensional data and geometrically measured area S_0^{50} is surface area ratio expressed by $\Delta S^{50} = [(S_x^{50} - S_0^{50}) / S_0^{50}] \times 100 \, (\%);$

 $\Delta S^{50(2-50)}$ which is found by the following equation from actual area $S_x^{50(2-50)}$ obtained by extracting a component with wavelength of 2 μm or longer and 50 μm or shorter from said three-dimensional data and geometrically measured area S_0^{50} is surface area ratio expressed by $\Delta S^{50(2-50)} = \left[\left(S_x^{50(2-50)} - S_0^{50} \right) / S_0^{50} \right] \times 100 \, (\%);$

 $\Delta S^{50(0.2-2)}$ which is found by the following equation from actual area $S_x^{50(0.2-2)}$ obtained by extracting a component with wavelength of 0.2 μm or longer and 2 μm or shorter from said three-dimensional data and geometrically measured area S_0^{50} is surface area ratio expressed by $\Delta S^{50(0.2-2)} = \left[\left(S_x^{50(0.2-2)} - S_0^{50} \right) / S_0^{50} \right] \times 100 \ (\%);$

steepness $a45^{50}$ is an area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area S_x^{50} found by <u>an</u> approximation three-point method from said three-dimensional data;

steepness a45⁵⁰⁽²⁻⁵⁰⁾ is an area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area $S_x^{50(2-50)}$ found by extracting a component with wavelength of 2 μ m or longer and 50 μ m or shorter from said three-dimensional data; and

steepness a45^{50(0.2–2)} is the area rate of a portion (area) having a slant with size of angle of 45° or bigger (gradient of 45° or bigger) to actual area $S_x^{50(0.2-2)}$ found by extracting a component with wavelength of 0.2 μ m or longer and 2 μ m or shorter from said three-dimensional data.

3. (original): The support for a lithographic printing plate according to claim 1, wherein the number of local deep areas with a depth of 5 μ m or more existent on the surface is 1.0 or less per 400 μ m \times 400 μ m.

Attorney Docket Q78018

AMENDMENT UNDER 37 C.F.R. § 1.111 U.S. Application No.: 10/784,879

- 4. (original): The support for a lithographic printing plate according to claim 2, wherein the number of local deep areas with a depth of 5 μ m or more existent on the surface is 1.0 or less per 400 μ m \times 400 μ m.
- 5. (original): The support for a lithographic printing plate according to claim 1, wherein Si atom attached quantity on the surface is 0.1 to 30 mg/m².
- 6. (original): The support for a lithographic printing plate according to claim 2, wherein Si atom attached quantity on the surface is 0.1 to 30 mg/m².
- 7. (original): The support for a lithographic printing plate according to claim 3, wherein Si atom attached quantity on the surface is 0.1 to 30 mg/m².
- 8. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 1.
- 9. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 2.
- 10. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 3.

Attorney Docket Q78018

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No.: 10/784,879

11. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 4.

- 12. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 5.
- 13. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 6.
- 14. (original): A presensitized plate provided with an image recording layer on the support for a lithographic printing plate according to claim 7.
- 15. (currently amended): The presensitized plate according to claim 8, wherein the presensitized plate is a presensitized plate for a laser printing plate.
- 16. (currently amended): The presensitized plate according to claim 9, wherein the presensitized plate is a presensitized plate for a laser printing plate.
- 17. (currently amended): The presensitized plate according to claim 10, wherein the presensitized plate is a presensitized plate for a laser printing plate.

Attorney Docket Q78018

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Application No.: 10/784,879

18. (currently amended): The presensitized plate according to claim 11, wherein the presensitized plate is a presensitized plate for a laser printing plate.

- 19. (currently amended): The presensitized plate according to claim 12, wherein the presensitized plate is a presensitized plate for a laser printing plate.
- 20. (currently amended): The presensitized plate according to claim 13, wherein the presensitized plate is a presensitized plate for a laser printing plate.
- 21. (currently amended): The presensitized plate according to claim 14, wherein the presensitized plate is a presensitized plate for a laser printing plate.